

## REMARKS

I. Status of the Application

Claims 1-20 are pending in this application. In the April 15, 2005 office action, the

Examiner:

- A. Objected to the specification for various informalities;
- B. Objected to claims 1, 8 and 15 for various informalities;
- C. Provisionally rejected claims 1-20 under the judicially created doctrine of obviousness-type double patenting over claims 17-20 of pending application no. 10/774,349;
- D. Rejected claims 1, 2, 3, 6, 9, 12-13, and 15, 17, 18, and 20 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,001,676 to Sawada et al. (hereinafter “Sawada”);
- E. Rejected claims 11, 14 and 19 under 35 USC § 103(a) as being unpatentable over Swada in view of U.S. Patent No. 5,662,887 to Miwa et al. (“Miwa”) or U.S. Patent No. 6,815,317 to Schafbauer et al (“Schafbauer”); and
- F. Allowed claims 4, 5, 7, 8, 10, 11, and 16 as being dependent upon a rejected base claim, but would be allowable if re-written in independent form, including all of the limitations of the base claim and any intervening claims.

In this response, Applicants have amended claims 1 and 15 as well as the abstract. Applicants respectfully request reconsideration of the pending claims in view of the foregoing amendments and the following remarks.

II. The Examiner's Objection to the Specification Should Be Withdrawn

In the April 15, 2005 Office action, the Examiner objected to the specification for various informalities in the abstract. Applicant has amended the abstract in accordance with the Examiner's suggestions. Accordingly, it is respectfully submitted that the Examiner's objections to the specification should be withdrawn.

III. The Examiner's Objections to Claims 1, 8, and 15 Should Be Withdrawn

A. Claims 1 and 15

In the April 15, 2005 Office action, the Examiner objected to claims 1 and 15 for an insufficient antecedent basis for the limitation "mask layers" in item c) of both claims 1 and 15. Applicant has amended both of claims 1 and 15 to overcome the Examiner's objection. Accordingly, the Examiner's objection to claims 1 and 8 should be withdrawn.

B. Claim 8

In the April 15, 2005 Office action, the Examiner objected to claim 8, alleging that the thinning of the gate electrode is performed *after* the common structuring of the gate electrode and the conductive layer. The Examiner apparently believes that the common structuring of the gate electrode and the conductive layer is disclosed in the specification with reference to Fig. 14, and the thinning of the gate electrode is disclosed in the specification with reference to Figs. 15 and 16. However, the specification references to Fig. 14 only describe the etching of the isolation layers 21a, 21b, 22 and the ARC layers 23a and 23b (see, for example, p. 17, lines 34-36 of the specification). The common structuring of the gate electrode layer and the conductive layer as specified in limitation c) of claims 1 and 15 is disclosed in the

specification as performed between Figs. 17 and 18A, wherein the gate electrode layers 19 and 15 in the MOS area and the conductive layer 20 in the bipolar area are commonly etched (see, for example, page 20, lines 6-11 of the specification). Thus, the thinning of the gate electrode layer described in Figs. 15 to 16 is prior to the common structuring of the gate electrode layer and the conductive layer described in Figs. 17 to 18A. Accordingly, the Examiner's objection to claim 8 should be withdrawn.

#### IV. The Provisional Double-Patenting Rejection

In the April 15, 2005 Office action, the Examiner provisionally rejected claims 1-20 under the judicially created doctrine of obviousness-type double patenting over claims 17-20 of pending application no. 10/774,349. Applicant defers responding to this provisional rejection at this time.

#### V. The Examiner's Claim Rejections Under 35 U.S.C. § 102(b) Should Be Withdrawn

In the April 15, 2005 Office action, the Examiner rejected claims 1, 2, 3, 6, 9, 12-13, and 15, 17, 18, and 20 under 35 U.S.C. § 102(b) as allegedly being anticipated by Sawada. As provided by MPEP § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference ... The identical invention must be shown in as complete detail as contained in the claim."

##### A. Swada

Swada describes a fabrication of a semiconductor integrated circuit apparatus wherein bipolar transistors and CMOS transistors are formed on a p-type semiconductor substrate. A

layer of polysilicon is deposited and etched in order to form an electrode of a bipolar transistor and gate electrodes of CMOS transistors. On the side-surface of the structured polysilicon film and a structured insulator layer provided on the polysilicon film, a thermal oxide layer is formed by thermal annealing. Thereafter, a silicon nitride layer and a polysilicon layer are formed and structured in order to generate a side wall layer comprising the oxide layer, the silicon nitride layer and the polysilicon layer. The polysilicon layer is removed in the MOS-region whereas the side-wall layer comprising the above three layers are maintained in the bipolar region.

#### B. Independent Claims 1 and 15

Swada does not disclose all the limitations of claims 1 and 15. For example, Swada does not show selective etching of a first and second isolating spacing layer provided at the side-walls of the gate electrode layer in the MOS area and the conductive layer in the bipolar area. As another example, Swada does not disclose removing the second spacing layer such that the remaining first spacing layer is isolating a base area and an emitter area in the bipolar area, as required by the claims.

Reference is made to column 16, lines 43 to 48 of Swada describing that the side-wall of the electrode 18A is made up of two insulator layers which are the thermal oxide layer 20A and the silicon nitride layer 21A. The Examiner appears to assume that the step of removing the second spacing layer specified in item f) of claim 1 is disclosed by Swada in column 16, lines 56 to 65. However, the removing of the polysilicon layer described in the above passage is directed to removing the outer polysilicon layer positioned above the isolating regions 15B and 15C. The above passage clearly discloses that the polysilicon layers which do not belong

to the region 17 are stripped (see column 16, lines 56-58). Since the layers provided at the outer side-walls of the polysilicon layer 18A above the isolating regions 15B and 15C do not serve for isolating a base area and an emitter area in the bipolar area as specified in step d) of claim 1, the Examiner's assessment that the stripping of the outer polysilicon layer is equivalent to the removing of the second spacing layer in the bipolar area is not justified. Furthermore, the outer layers 20A and 21A provided at the side walls are also not removed in the method disclosed in Swada.

In addition to the above, Swada even teaches away from completely removing the second spacing layer such that the first spacing layer provides isolation of a base and an emitter area since the isolation layers 20A and 21A as well as the polysilicon layer 22A at the inner side-walls providing isolation of the base and emitter area are not removed and only polysilicon layer 18A on the outer side-walls of the bipolar area are removed.

For at least the reasons discussed above, Swada does not disclose all limitations of claims 1 and 15 of the present application. Accordingly, it is respectfully submitted that claims 1 and 15 are allowable and the examiner's rejection of claims 1 and 15 as anticipated by Swada under 35 U.S.C. § 102(b) should be withdrawn.

C. Dependent Claims 2, 3, 6, 9, 12-13, 17, 18, and 20

Each of claims 2, 3, 6, 9, 12-13, 17, 18, and 20 depend from and incorporate all the limitations of one of allowable independent claims 1, or 15. Accordingly, it is respectfully submitted that dependent claims 2, 3, 6, 9, 12-13, 17, 18, and 20 are also allowable for at least the same reasons that independent claims 1 and 15 are allowable.

VI. The Examiner's Claim Rejections Under 35 USC § 103(a) Should Be Withdrawn

In the April 15, 2005 Office action, the Examiner rejected claims 11, 14 and 19 under 35 USC § 103(a) as being unpatentable over Swada in view of U.S. Patent No. 5,662,887 to Miwa et al. ("Miwa") or U.S. Patent No. 6,815,317 to Schafbauer et al ("Schafbauer"). The rejection of claim 11 appears to be in error, as the Examiner also indicated that claim 11 contains allowable subject matter.

As discussed above, independent claims 1 and 15 are allowable. Claim 14 depends from claim 1 and claim 19 depends from claim 15. Accordingly, it is respectfully submitted that dependent claims 14 and 19 are also allowable for at least the same reasons that independent claims 1 and 15 are allowable.

VII. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicants have made a patentable contribution to the art. Favorable reconsideration and allowance of this application is, therefore, respectfully requested.

Respectfully submitted,



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